

EMBEDDED MICROPROCESSOR FOR INTEGRATED CIRCUIT TESTING AND  
DEBUGGING

ABSTRACT OF THE DISCLOSURE

5        A technique for embedding a microprocessor into an integrated circuit allows on-chip testing and debugging. The microprocessor present on the chip tests and debugs the rest of the chip. Both testing and debugging of a programmable logic device use an embedded microprocessor. Testing is performed by the device manufacturer using a test system. Debugging is performed by a user using a host computer. A PLD includes

10      programmable logic, an embedded microprocessor and separate memory. Testing or debugging routines, patterns, simulations, etc., are downloaded onto the memory. The microprocessor executes the test or debug routine and uploads results to the test system or host computer. The technique is applicable any integrated circuit that can include an embedded microprocessor and associated memory, such as a PLD, an ASIC, a memory

15      chip, or an analog chip.